

FACT SHEET

PERMITTEE / SITE NAME: City of Big Rapids / Big Rapids Water Recovery Plant

COUNTY: Mecosta

DESCRIPTION OF EXISTING WASTEWATER TREATMENT FACILITIES

The water recovery treatment plant serves the City of Big Rapids and portions of Green Township and Big Rapids Township. The design flow of the facility is 2.4 MGD, which is unchanged from the previous permit cycle. The treatment process consists of primary treatment, activated sludge, and ultraviolet disinfection. Influent flows through a mechanical screen and into an aerated grit chamber. The wastewater then flows into a wet well containing two screw pumps used to transport the wastewater to the grit and grease removal system.

The facility provides activated sludge treatment through four aeration basins operating in parallel, two sets of two tanks in series, or three tanks in series. Ferric Chloride for phosphorus removal is added before the wastewater flows to two primary clarifiers for settling. Secondary effluent is disinfected using ultraviolet disinfection. Similar to the previous permit cycle, chlorine disinfection is retained only for backup purposes.

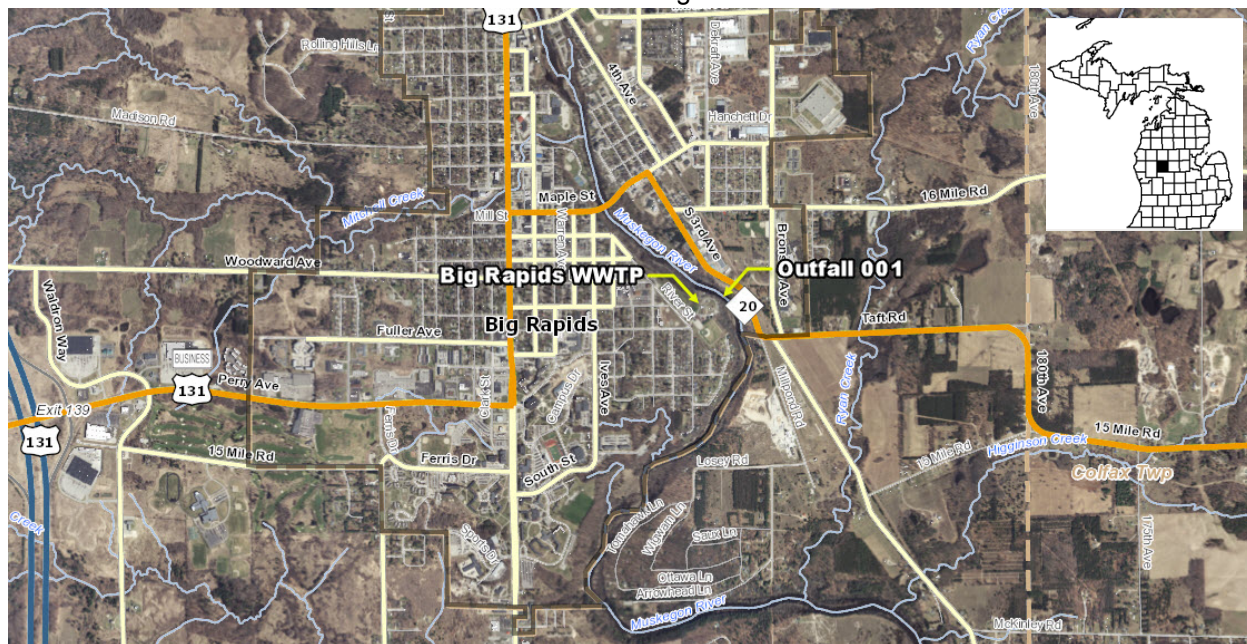
Settled sludge from the secondary clarifiers is collected in a thickener and then pumped to aerobic digesters. Digested sludge is transferred to the sieve drum concentrator to be thickened. Thickened sludge is then held in a sludge-holding tank prior to being land applied at agronomic rates.

MAP OF DISCHARGE LOCATION

Facility Coordinates

Latitude 43.69255

Longitude -85.46880



RECEIVING WATER

The Muskegon River is protected for agricultural uses, navigation, industrial water supply, public water supply in areas with designated public water supply intakes, warm-water fish, other indigenous aquatic life and wildlife, partial body contact recreation, total body contact recreation (May through October), and fish consumption.

The latest *Water Quality and Pollution Control in Michigan Sections 303(d), 305(b), and 314 Integrated Report* indicates the Muskegon River (Assessment Unit ID (AUID) 040601020704-02) is Not Supporting Water Quality Standards (WQS) (Category 4a Waterbody) for the Fish Consumption and Other Indigenous Aquatic Life and Wildlife designated uses due to polychlorinated biphenyls (PCBs) in the water column. A statewide Total Maximum Daily Load (TMDL) for PCBs was approved by the United States Environmental Protection Agency (USEPA) on September 26, 2017.

The receiving stream flows used to develop effluent limitations are a 95 percent exceedance flow of 400 cfs, a harmonic mean flow of 920 cfs, and a 90-day, 10-year low flow of 470 cfs.

MIXING ZONE

For toxic pollutants, the volume of the Muskegon River used to ensure that effluent limitations are sufficiently stringent to meet Water Quality Standards is 25 percent of the applicable design flow of the receiving stream.

For other pollutants, the volume of the Muskegon River used to ensure that effluent limitations are sufficiently stringent to meet Water Quality Standards is the applicable design flow of the receiving stream.

EXISTING EFFLUENT QUALITY: (from DMR data from January 1, 2014 to April 30, 2018)

Parameter	Minimum Daily	Maximum Monthly	Maximum 7-Day	Maximum Daily	Units
Flow	---	1.48	---	2.70	MGD
Carbonaceous Biochemical Oxygen Demand (CBOD ₅)	---	15 106	34 160	---	mg/l lbs/day
Total Suspended Solids (TSS)	---	16 150	33 408	---	mg/l lbs/day
Ammonia Nitrogen (as N)	---	19	---	27	mg/l
Total Phosphorus (as P)	---	1.0 9.5	---	---	mg/l lbs/day
Fecal Coliform Bacteria	---	114	436	---	cts/100 ml
Total Residual Chlorine (TRC)	---	---	---	24	ug/l
Total Mercury	---	3.2 0.000036	---	---	ng/l lbs/day
pH	6.3	---	---	8.0	S.U.
Dissolved Oxygen	5.0	---	---	---	mg/l
	Minimum Monthly				
CBOD ₅ Minimum % Removal	90	---	---	---	%
TSS Minimum % Removal	93	---	---	---	%

PROPOSED EFFLUENT LIMITATIONS: (see draft permit)

BASIS FOR PROPOSED EFFLUENT LIMITATIONS: (see Basis for Decision Memo)

ADDITIONAL INFORMATION

This permit requires the permittee to prepare an Asset Management Program, and implement the program upon Department of Environmental Quality approval. Annual reports summarizing program activity are also required to be submitted. The requirements of an Asset Management Program contain goals of effective performance, adequate funding, and adequate operator staffing and training. Asset management is a planning process that ensures gaining optimum value for each asset and providing the financial resources to rehabilitate and replace them when necessary and typically includes five core elements that identify: the current state of the asset, the desired level of service (e.g., per the permit or for the customer), the most critical asset(s) to sustain performance, the best life cycle cost, and the long-term funding strategy to sustain service and performance.

REGISTER OF INTERESTED PERSONS

Any person interested in receiving notification by e-mail of National Pollutant Discharge Elimination System (NPDES) permitting actions may register with the Permits Section of the Department of Environmental Quality (Department). To register, e-mail the contact identified below with your full name and the request that you be added to the Department's Public Notice Notification List. Once you are added to the list, you will receive an e-mail notification for every NPDES permitting action in the state unless/until you ask to be removed from the list.

PUBLIC COMMENT

Persons wishing to submit comments or request a public hearing should go to <https://miwaters.deq.state.mi.us>, select 'Public Notice Search,' search for this public notice by entering the permit number or site name into the search field, click 'Search', click 'View,' click 'Add Comment,' enter information into the fields, and then click 'Submit.' Comments or objections to the draft permit received between December 6, 2018, and January 5, 2019, will be considered in the final decision to issue the permit.

Any person may request the Department of Environmental Quality (Department) to hold a public hearing on the application. The request should include specific reasons for the request, indicating which portions of the application or draft permit constitute the need for a hearing. If submitted comments indicate significant public interest in the application or if useful information may be produced, the Department, at its discretion, may hold a public hearing on the application.

If a public hearing is scheduled, public notice of the hearing will be provided at least 30 days in advance. The hearing will normally be held in the vicinity of the discharge. The Department will consider comments made at the hearing when making its final determinations on the permit. Inquiries should be directed to Jay Oh, Permits Section, Water Resources Division, Department of Environmental Quality, P.O. Box 30458, Lansing, Michigan 48909-7958; telephone: 517-284-5597; or e-mail: OhJ@michigan.gov.